ANGELA D. COOK, MS

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PROFESSIONAL SUMMARY

Senior RWE Data Scientist with 7+ years of experience in pharmaceutical and academic research. Hands-on expertise across HealthVerity, Optum EHR, Optum Claims, IQVIA PharMetrics, and PINC AI/Premier, with direct Snowflake-based analysis experience across all five sources. At Pfizer, served as the primary internal data expert on the COVID-19 RWE team, working directly with senior epidemiologists to execute feasibility analyses, outcome ascertainment, QC validation, and study documentation across the full RWE lifecycle. Seeking a senior or director-level RWE role, open to global opportunities.

CORE COMPETENCIES & TECHNICAL SKILLS

Programming & Tools: R, Python, SQL (Snowflake), SAS, Bash/Linux; Tableau, Shiny, Dataiku, GitHub, Microsoft Word, Excel, PowerPoint, Outlook

RWE Methods: Cohort design, exposure-indexed time-to-event analysis, outcome ascertainment, propensity score methods, sample size estimation, feasibility assessment, survival analysis outputs, reproducible pipelines

Real-World Data Sources: HealthVerity nationwide claims and mortality data, Optum EHR, Optum Claims, IQVIA PharMetrics, PINC AI/Premier, state vaccine registries, claims-registry linkage

Therapeutic Areas: COVID-19, vaccine effectiveness, antivirals, RSV, influenza, immunology, oncology, cardiovascular, neuroscience, pregnancy outcomes

Leadership & Communication: Cross-functional stakeholder management, contractor oversight, scientific writing, AI/LLM workflow collaboration (RAG-based protocol analysis), Agile/Scrum

Certification: SAS Certified Base Programmer

PROFESSIONAL EXPERIENCE

Pfizer | *RWE Scientist, Manager* | Nov 2022 – Aug 2025

- Primary internal data and epidemiology expert on the COVID-19 RWE team at Pfizer. Worked directly with senior epidemiologists and medical affairs leadership to respond to ad hoc analytical requests, often with limited context, across the full study lifecycle from data pull to output delivery.
- Designed and executed cross-therapeutic feasibility analyses in Snowflake across HealthVerity, Optum EHR, Optum Claims, IQVIA PharMetrics, and PINC AI/Premier, evaluating patient population size, data completeness, demographic coverage, pharmacy data availability, data lag, and cross-source comparability to inform data source selection. Built dashboards characterizing data availability and patient populations grouped by therapeutic area including COVID-19, oncology, immunology, cardiovascular, neuroscience, and pregnancy outcomes.
- Performed exposure-indexed outcome ascertainment for antiviral effectiveness studies, identifying Paxlovid dispensations in claims data, defining follow-up windows based on clinical literature, and tracking outcome occurrence across defined post-exposure periods. Calculated endpoint counts and event rates across patient populations and provided those inputs to senior epidemiologists for use in formal power and sample size calculations.
- Authored and contributed to study protocols and statistical analysis plans for vaccine effectiveness and antiviral real-world studies; translated complex scientific and statistical findings into clear documentation for clinical, regulatory, and medical affairs stakeholders.
- Oversaw and validated externally produced study code and analytical outputs across HealthVerity-linked claims and state vaccine registry data, IQVIA PharMetrics, and PINC AI/Premier; identified a vaccine CPT code misalignment during QC that had caused systematic data errors, resulting in a full-year data credit from HealthVerity worth over $1 million.
- Built Shiny and Tableau dashboards across multiple real-world data sources for internal stakeholders and publication-ready reporting.
- Contributed subject matter expertise and study protocols to a RAG-based pipeline for automated protocol analysis.
- Co-authored two peer-reviewed publications on COVID-19 health outcomes and vaccine effectiveness.

Target RWE | *RWE Data Scientist* | May 2021 – Nov 2022

- Managed the full analytic lifecycle across real-world studies, from cohort definition and data extraction through statistical analysis, QC, and final delivery, producing reproducible R, Python, and SQL code.
- Built cohort definitions with rigorous predicate logic to handle clinical edge cases; documented analytic decisions thoroughly for reproducibility and client review.
- Contributed to CausalStudio, the company's proprietary causal inference platform, by extending function arguments to support additional analytic use cases.
- Built interactive Shiny and Tableau dashboards summarizing 400,000+ event-level records to support client decision-making.
- Co-authored a conference poster awarded 1st Place Spotlight Prize in Drug Utilization Research at ICPE 2022.

Duke University, Aging & Cognition Lab | *Senior Clinical Research Supervisor* | Mar 2018 – Jun 2020

- Designed and executed research pipelines for MRI-based cognitive aging studies; processed and analyzed neuroimaging (MRI/DTI) data using custom scripts on a Linux HPC cluster.
- Authored study documentation, IRB protocols, and psychometric battery procedures; maintained compliance and data integrity across multiple concurrent studies.
- Co-authored three peer-reviewed publications in Human Brain Mapping, Neurobiology of Aging, and Neurocase.

EDUCATION

M.S. Analytics | Institute for Advanced Analytics, NC State University | 2021

B.S. Neuroscience | University of Texas at Dallas | 2017

Relevant coursework: Technical Writing, Medical Writing

PEER-REVIEWED PUBLICATIONS

- Khan FL, Boucher J, Wiemken TL, Cook AD, et al. (2025). COVID-19 Vaccination and Impact on Morbidity Among Nursing Home Residents. *Journal of the American Medical Directors Association*.
- Cook A, Andersen K, et al. (2025). COVID-19 XBB.1.5 Vaccine Uptake Based on State Vaccine Registries Compared to National Survey Data. *Open Forum Infectious Diseases*. Presented at IDWeek 2024. [First Author, Conference Poster]
- Yehoshua A, Cook A, Di Fusco M, et al. (2024). Health outcomes and economic burden among patients with a COVID-19-associated hospitalization in the United States. *Journal of Medical Economics*, 27(1), 1372-1378.
- Howard C, Jain S, Cook A, et al. (2022). Cortical iron mediates age-related decline in fluid cognition. *Human Brain Mapping*, 43(3), 1047-1060.
- Rathnayaka N, Wiener C, Breskin A, Cook A, Brookhart MA. (2022). In-Hospital Treatment Patterns Among Patients Hospitalized with COVID-19 in the United States. *ICPE, Copenhagen*. 1st Place Spotlight Award, Drug Utilization Research.
- Madden D, Jain S, Monge Z, Cook A, et al. (2020). Influence of structural and functional brain connectivity on age-related differences in fluid cognition. *Neurobiology of Aging*, 96, 205-222.
- Madden D, Melton M, Jain S, Cook A, et al. (2019). Neural activation for actual and imagined movement following unilateral hand transplantation: a case study. *Neurocase*, 25(6), 225-234.

SELECTED SERVICE

Crisis Text Line, Crisis Counselor (2018-2019) | Read and Feed, Literacy Tutor (2022-2023) | Community Empowerment Fund, Volunteer (2018-2019) | Lasagna Love, Volunteer Cook (2023-2024)